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NOTES ON GEOGRAPHIC DISTRIBUTION

A new locality and range extension for the Rancho Grande Leaf Frog *Agalychnis medinae* (Funkhouser, 1962) (Anura: Hylidae) in northern Venezuela

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ABSTRACT: *Agalychnis medinae* is a medium-sized frog endemic to the Cordillera de la Costa, northern Venezuela, and known from only three localities in the cloud forests of this mountain system. Herein we report the fourth locality for this species and extend its distribution to the Sierra de Aroa, Yaracuy state, 29 km northwest of Cerro Zapatero, the westernmost locality previously known.

Agalychnis medinae (Funkhouser, 1962) is a medium-sized frog of the family Hylidae. It differs from all other members of the genus by having the snout sloping in profile, white warts occasionally present on the dorsum, paracloacal tubercles present, calcar tubercle absent, feet approximately one-fourth webbed, dorsum generally pale green (occasionally reddish brown or greenish brown), flanks, hands and feet orange, and iris pale silver bronze or silver, monochrome or reticulated with dark bronze (Cannatella 1980; Hertz and Lotzkat 2010).

Agalychnis medinae was originally described as a member of the genus *Phyllomedusa* but in the last decade has been relocated to various genera (see Frost 2013 for a review of its taxonomic history). This species has been reported from three localities (Figure 1) in the cloud forests of the Cordillera de la Costa in northern Venezuela: 1) Rancho Grande, Parque Nacional (PN) Henri Pittier, Aragua state (type locality) (Funkhouser 1962); 2) near Bejuma, Carabobo state (Proy 2000); and 3) Cerro Zapatero, Yaracuy state (Lotzka *et al*. 2007). However, the population at Rancho Grande and vicinity has not been recorded in the last four decades (Manzanilla and La Marca 2010). The report from Bejuma must be verified inasmuch as Proy (2000) based his record on tadpoles and did not mention any voucher specimens; no other collecting efforts have been conducted at Bejuma since Proy's record.

Herein, we report a fourth locality for *Agalychnis medinae*. It was discovered in April 2011 during a biodiversity survey of the "Programa de Inventario Nacional de Fauna" conducted by the Museo de la Estación Biológica de Rancho Grande (EBRG), Universidad de Carabobo (UC) and Grupo de Exploraciones Científicas Minas de Aroa (GECMA) in the Sierra de Aroa, Yaracuy state. Voucher specimens were deposited in the herpetological collection of the EBRG under the catalogue numbers EBRG 6922–6924.

The three voucher specimens referred in this note (an adult female [EBRG 692, 47.1 mm of SVL] and two adult males [EBRG 6923, 38.6 mm of SVL; EBRG 6924, 37.2 mm of SVL]) were found in April 25, 2011, in a small permanent pool (Figure 2) at the edge of a cloud forest, located beside a rural road and the pasture of a nearby farm in "El Silencio", Sierra de Aroa, Yaracuy state, Venezuela (10°25′13.7″ N, 68°48′57.7″ W; 1,447 m; Figure 1). Additional specimens (not collected) were observed at the same locality in May 2011, March 2012, August and October 2013. In all these occasions, between five and ten specimens were seen while active at night, on leaves and branches of bushes around the pool, between 30 and 200 cm aboveground. Calling males, amplectant couples (Figure 3A) and an egg mass were observed in April and May 2011, and March 2012, whereas only several adult males (Figure 3B), one egg mass (Figure 3C), and numerous tadpoles were observed in August 2013. In October 2013 only an amplectant couple was encountered.

This new locality extends the distribution of *Agalychnis medinae* ca. 29 km NW from Cerro Zapatero, the closest known locality, and lies 124 km W of Rancho Grande, the easternmost locality recorded for this species. The altitudinal distribution is also extended to 1,447 m (the three localities previously known range from 1,000 to 1,300 m). Finally, our new record reveals the presence of this frog in the PN Yurubí, a protected area of 236.7 km^2 that covers most of the pristine forest left in the Sierra de Aroa.

Despite the small number of localities from which *Agalychnis medinae* is known, its apparent disappearance from the type locality and its restricted distribution, it is currently included under the IUCN category of Data Deficient (Manzanilla and La Marca 2010) and listed

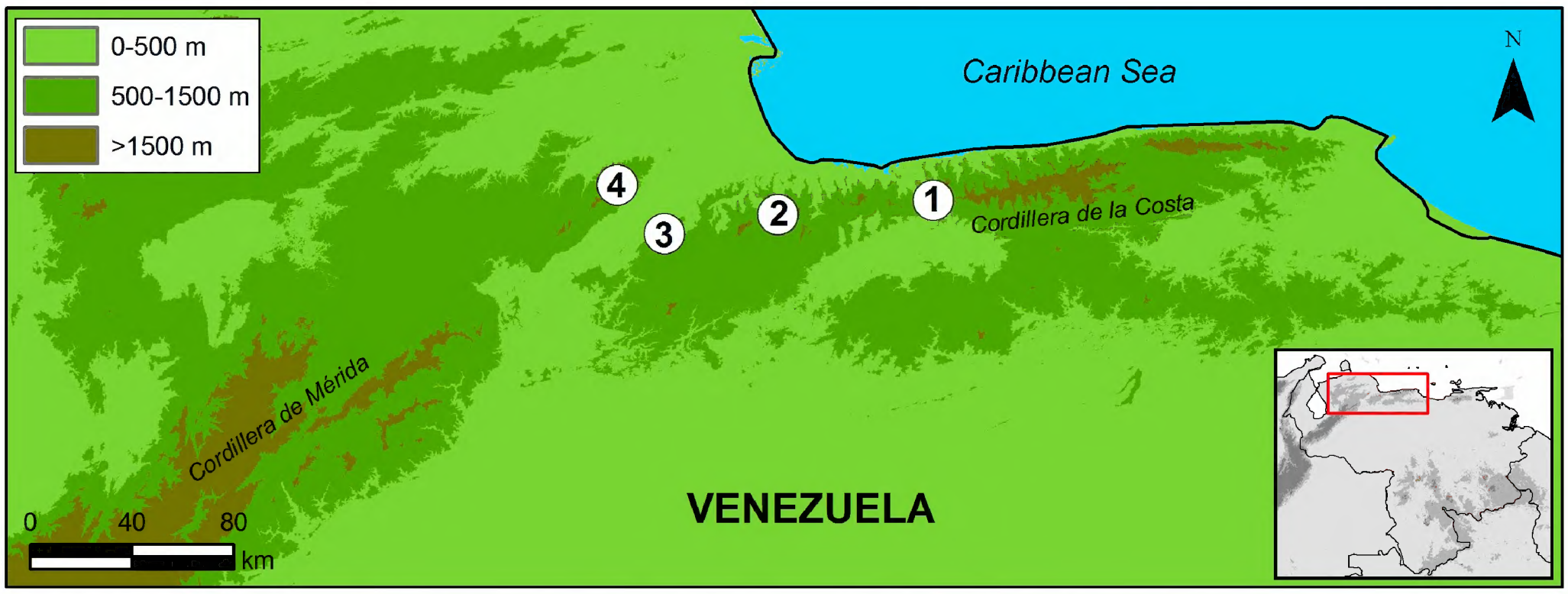

FIGURE 1. Map of northern Venezuela showing the distribution of *Agalychnis medinae*. 1) Rancho Grande, PN Henri Pittier, Aragua state (type locality); 2) near Bejuma, Carabobo state; 3) Cerro Zapatero, Yaracuy state; and 4) El Silencio, Sierra de Aroa, Yaracuy state.

FIGURE 2. Habitat where the new population of *Agalychnis medinae* was found. The photograph was taken during the dry season (September 2013) when the water level of the pool is at its minimum. Photo: F. García.

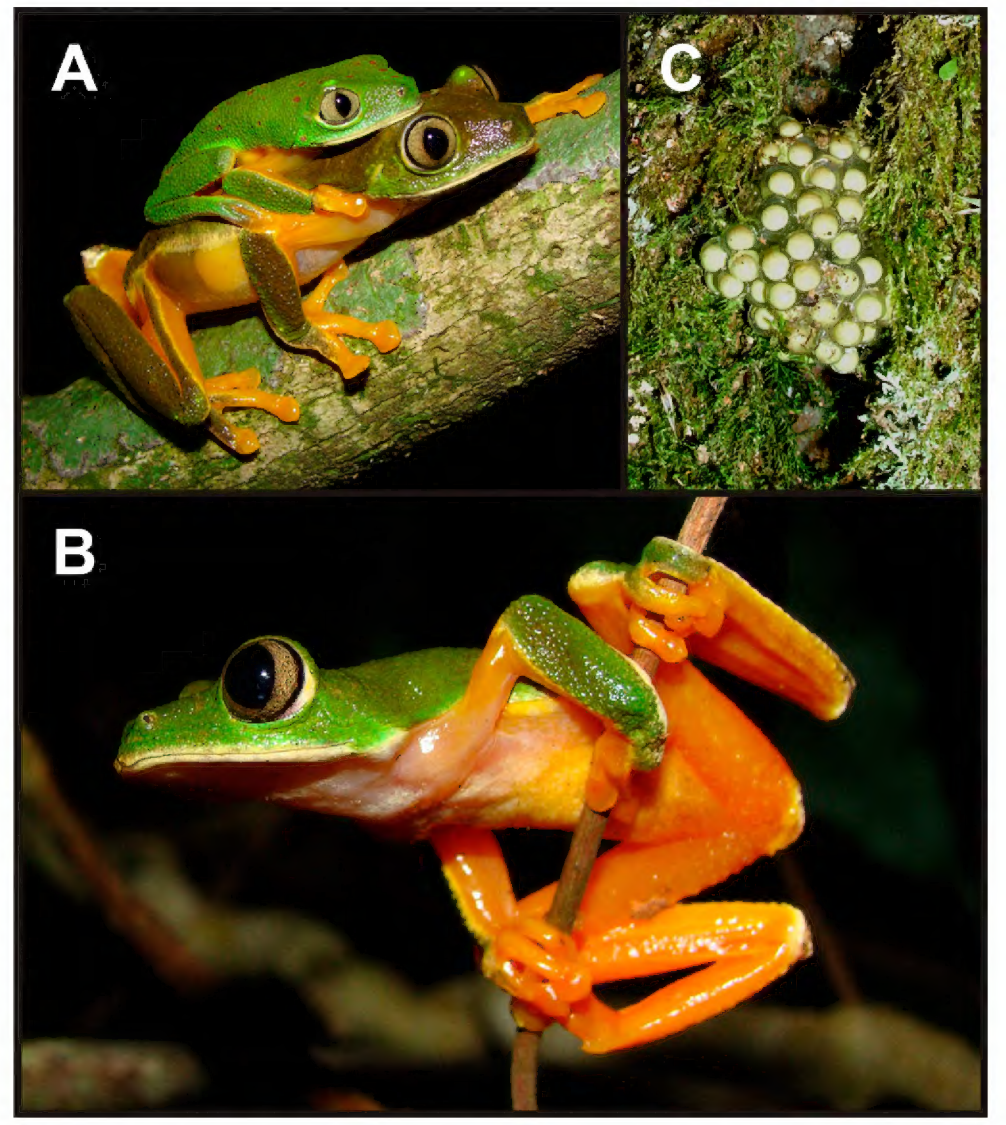

FIGURE 3. A: amplectant couple found in April 2011. B: adult male observed in August 2013. C: egg mass found in August 2013. Photos: A-B: F. J. M. Rojas-Runjaic; C: W. Bolaños.

as Near Threatened in the Red Book of the Venezuelan Fauna (Rodríguez and Rojas-Suárez 2008). On the other extreme, Barrio-Amorós and Torres (2010), and Barrio-Amorós (2013) suggested that this species must be categorized as Critically Endangered based on the criterion B2a (area of occupancy lesser than 10 km^2, and habitat severely fragmented or known from only one locality).

Although our understanding of the geographic distribution and conservation status of *Agalychnis medinae* is improved, it is still incomplete. New populations will probably be discovered as unexplored regions of the Cordillera de la Costa (including several protected areas) continue to be surveyed. Thus, on the basis of the aforementioned, and considering the current level of risk to the cloud forest of this bioregion (Critically Endangered and Endangered; Oliveira-Miranda *et al.* 2010), we suggest that *Agalychnis medinae* should be re-categorized as Endangered, based on the criterion B1ab(iii) of the IUCN (2001) (extent of occurrence less than 5,000 km^2, no more than five locations, continuing decline in area, extent and quality of habitat).

The egg mass found on August 2013 was located into the crevice of a rotten log covered with moss (Figure 3C) which was beside the permanent pool (Figure 2). Egg masses of this species have been previously reported attached to leaves without rolling (Funkhouser 1962; Hertz and Lotzkat 2010). Our observation demonstrates that *Agalychnis medinae* may nest in other microhabitats than those commonly used.

Our current knowledge of the natural history of *Agalychnis medinae* is very limited (Funkhouser 1962; Cannatella 1980; Barrio-Amorós 2010; Hertz and Lotzkat 2010) and the population status and the threats to the survival of this frog have never been systematically assessed. Studies focusing on these issues, and additional sampling efforts, particularly in yet unexplored areas of the Cordillera de la Costa, are needed to adequately reassess its current status of risk and to design strategies for *in-situ* and *ex-situ* population management.

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